F-14 TOMCAT

GAME BOY ADVANCE

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INSTRUCTION MANUAL

MAJESCO

WARNING: PLEASE CAREFULLY READ THE PRECAUTIONS BOOKLET INCLUDED WITH THIS PRODUCT BEFORE USING YOUR NINTENDO® HARDWARE SYSTEM, GAME PAK OR ACCESSORY. THIS BOOKLET CONTAINS IMPORTANT SAFETY INFORMATION.

IMPORTANT SAFETY INFORMATION - READ THE FOLLOWING WARNINGS BEFORE YOU OR YOUR CHILD PLAY VIDEO GAMES

⚠ WARNING - Seizures

Some people (about 1 in 4000) may have seizures or black outs triggered by light flashes, such as while watching TV or playing video games, even if they have never had a seizure before.

Anyone who has had a seizure, loss of awareness, or other symptom linked to an epileptic condition should consult a doctor before playing a video game.

Parents should watch when their children play video games. Stop playing and consult a doctor if you or your child have any of the following symptoms:

| **Convulsions** | **Eye or muscle twitching** | **Loss of awareness** |
| **Altered vision** | **Involuntary movements** | **Disorientation** |

To reduce the likelihood of a seizure when playing video games:
1. Sit or stand as far from the screen as possible.
2. Play video games on the smallest available television screen.
3. Do not play if you are tired or need sleep.
4. Play in a well-lit room.
5. Take a 10 to 15 minute break every hour.

⚠ WARNING - Repetitive Motion Injuries

Playing video games can make your muscles, joints or skin hurt after a few hours. Follow these instructions to avoid problems such as Tendonitis, Carpal Tunnel Syndrome or skin irritation:

- ¥ Take a 10 to 15 minute break every hour, even if you don't think you need it.
- ¥ If your hands, wrists or arms become tired or sore while playing, stop and rest them for several hours before playing again.
- ¥ If you continue to have sore hands, wrists or arms during or after play, stop playing and see a doctor.

⚠ WARNING - Battery Leakage

Leakage of battery acid can cause personal injury as well as damage to your Game Boy. If battery leakage occurs, thoroughly wash the affected skin and clothes. Keep battery acid away from your eyes and mouth. Leaking batteries may make popping sounds.

To avoid battery leakage:

- ¥ Do not mix used and new batteries (replace all batteries at the same time).
- ¥ Do not mix alkaline and carbon zinc batteries.
- ¥ Do not mix different brands of batteries.
- ¥ Do not use nickel cadmium batteries.
- ¥ Do not leave used batteries in the Game Boy. When the batteries are losing their charge, the power light may become dim, the game sounds may become weak, or the display screen may be blank. When this happens, promptly replace all used batteries with new batteries.
- ¥ Do not leave batteries in the Game Boy or accessory for long periods of non-use.
- ¥ Do not leave the power switch on after the batteries have lost their charge. When you finish using the Game Boy, always slide the power switch OFF.
- ¥ Do not recharge the batteries.
- ¥ Do not put the batteries in backwards. Make sure that the positive (+) and negative (-) ends are facing in the correct directions. Insert the negative end first. When removing batteries, remove the positive end first.
- ¥ Do not dispose of batteries in a fire.

Thank you for purchasing F-14 TOMCAT™ for the Game Boy® Advance System. Before starting, please read through this manual carefully, and keep this instruction booklet for future reference.

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CLASSIFIED INSTRUCTIONS

**From the Desk of the Secretary
Department of the Navy**

To: Naval Aviators in the South China Sea Area of Operations
Re: Presidential Order #67

Recent events in your carrier group's area of operations have led to run away political and military instability in the region. In order to stem the flow of military supplies and other stores into the area, the President has declared the air space surrounding this region closed to all military and civilian traffic. This is an attempt to ensure that the current situation does not deteriorate any further.

Naval aviators conducting operations in this area will be at a full state of combat readiness at all times. This air space is, in effect, a free-fire zone; any aircraft entering it will be assumed to have hostile intent. Naval aviators are authorized to neutralize any such threats using all of the means at their disposal.

Intelligence reports indicate that one of the nations in this region intends to test the President's resolve on this issue by conducting offensive air operations in spite of the ban on air traffic. Naval aviators are advised that the bulk of said nation's air power consists of aircraft produced in the former Soviet Union, chiefly top-of-the-line MiG-29s.

In addition, a series of strategic strikes will be executed in your carrier's sphere of influence in order to emphasize the militaries presence and deter any and all future hostilities.

The President has expressed his confidence in the Navy's air arm to successfully maintain the peace in this volatile region. As for myself, I know that your training has prepared you for a mission such as this, and that you will execute your orders superbly.

--God Speed.

PREFLIGHT CHECKLIST

Before heading up on deck, please begin with the following:

1. Turn off your Game Boy" Advance System, then insert the F-14 TOMCAT Game Pak into your Game Boy" Advance System.

2. Turn on your Game Boy® Advance System. In a few moments the *Majesco Logo Screen* should appear.

3. Press **START** until the *Main Option Screen* appears.

Important Note: If nothing appears on the screen, turn the power switch OFF. Check to make sure the Game Pak is inserted correctly. Then try again. (Always turn the power switch OFF before inserting or removing the Game Pak.)

WARGAME PREPARATIONS

To play F-14 TOMCAT in multi-player head-to-head Wargame Mode, each player must have their own Game Boy® Advance System, and a copy of the F-14 TOMCAT Game Pak. Also, you will need from 1 to 3 Game Boy® Advance Game Link® Cable(s) (sold separately).

Linking Up

1. Each player should turn off their Game Boy® Advance System, then insert the F-14 TOMCAT Game Pak into their Game® Boy Advance System.

2. Connect the Game Boy® Advance Game Link® Cable to each Game Boy Advance System. If two pilots are flying, then you will need only one Game Link® Cable. If three are flying, you will need two Game Link® Cables, and if four are flying, you will need three Game Link® Cables.

3. Turn on the Game Boy® Advance Systems. In a few moments you will see the *Majesco Logo Screen*.

4. After the *Majesco Logo Screen* appears, press **START** until the *Main Options Screen* appears.

LAUNCH PROCEDURES
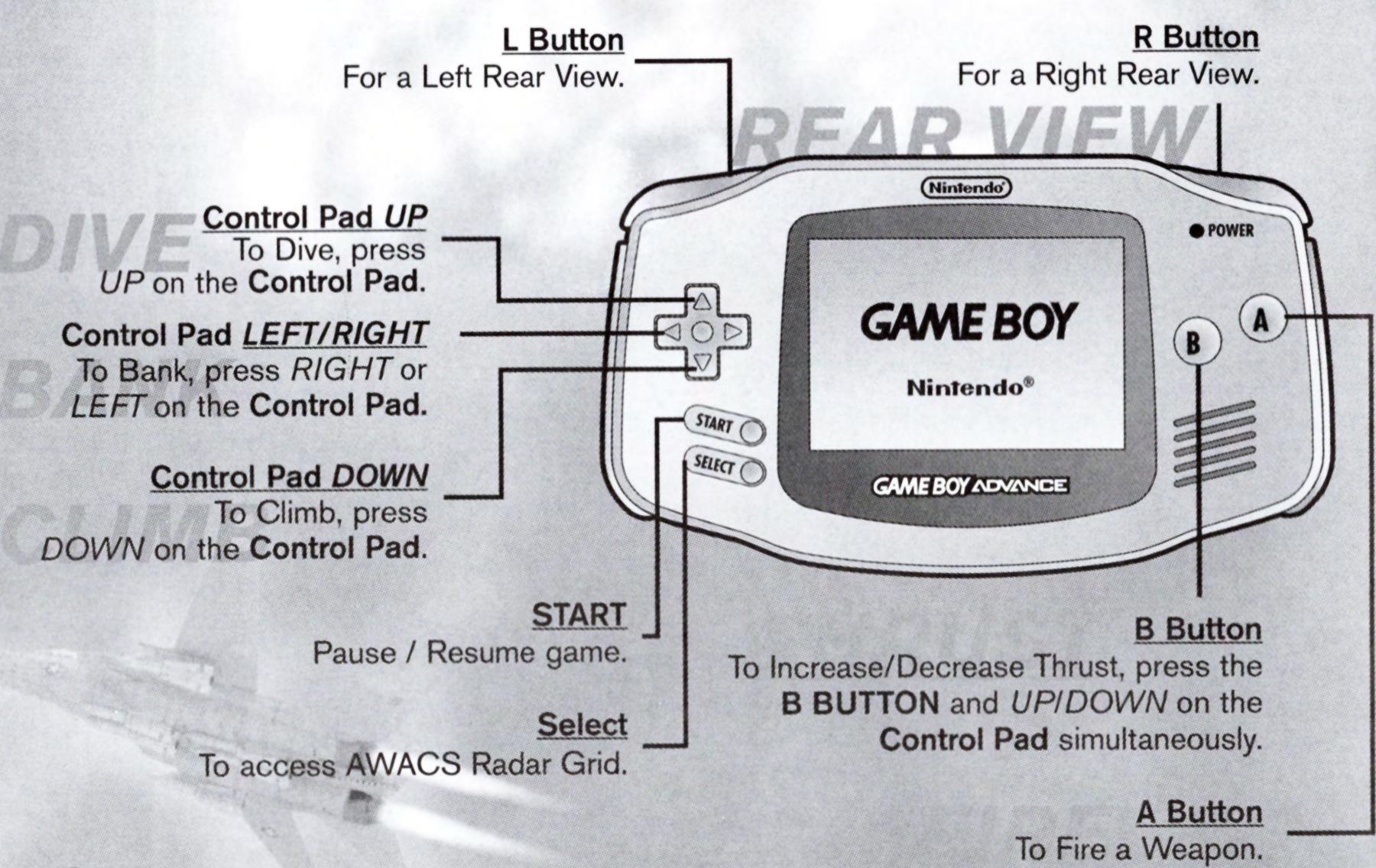
Once your F-14 is positioned onto one of the two steam-propelled catapults at the back of the Carrier, the Flight Officer will motion you to throttle up your engines.

- Press the **B Button** and *UP* on the **Control Pad** simultaneously until the thrust level reaches 210%.

- When you are saluted by the Flight Officer, the ship's catapult mechanism will be engaged, launching your F-14 from the flight deck.

Pilot's Advisory: In Novice Mode, the launch procedure will occur automatically.

BASIC FLIGHT CONTROL

Your F-14 Tomcat responds to the following controls:

L Button
For a Left Rear View.

R Button
For a Right Rear View.

Control Pad *UP*
To Dive, press *UP* on the **Control Pad**.

Control Pad *LEFT/RIGHT*
To Bank, press *RIGHT* or *LEFT* on the **Control Pad**.

Control Pad *DOWN*
To Climb, press *DOWN* on the **Control Pad**.

START
Pause / Resume game.

Select
To access AWACS Radar Grid.

B Button
To Increase/Decrease Thrust, press the **B BUTTON** and *UP/DOWN* on the **Control Pad** simultaneously.

A Button
To Fire a Weapon.

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General Aviation Controls

To Climb:	Press *DOWN* on the **Control Pad**.
To Dive:	Press *UP* on the **Control Pad**.
To Bank Right or Left:	Press *RIGHT* or *LEFT* on the **Control Pad**.
To Increase Thrust:	Press the **B BUTTON** and *UP* on the **Control Pad** simultaneously.
To Decrease Thrust:	Press the **B BUTTON** and *DOWN* on the **Control Pad** simultaneously.

Weapons Systems

To Select a Weapons System:	Press and hold the **B Button**, then press the **R** or **L Button**.
To Fire a Weapon:	Press the **A BUTTON**.
Dispensing Countermeasures:	Press and hold the **R** or **L Button**, then press the **B Button**.

General Controls

For a Left Rear View:	Press the **L Button**.
For a Right Rear View:	Press the **R Button**.
To Pause and Unpause:	Press **START**.

Computer and Radar Systems

To access AWACS Radar Grid:	Press **Select**.
To exit the AWACS Radar Grid:	Press **Select**.
To display the AWG-9 Radar System:	Press the **B Button** and **Control Pad** *RIGHT* repeatedly.
To display the Computer Screens:	Press the **B Button** and **Control Pad** *LEFT* repeatedly.

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MAIN OPTIONS SCREEN

MAIN OPTIONS SCREEN

From the *Main Options Screen* you can select either the Novice or Ace settings for game play, enter a password to return to a specific mission, or practice landing on the Carrier.

To select an option, press the **Control Pad** *UP* or *DOWN* to highlight the desired option, then press the **A Button** to select it.

New Game
Select this option to play F-14 TOMCAT in one player mission mode.

Multi-Player
Selecting this option allows 2, 3, or 4 players to go head-to-head in an aerial death-match.
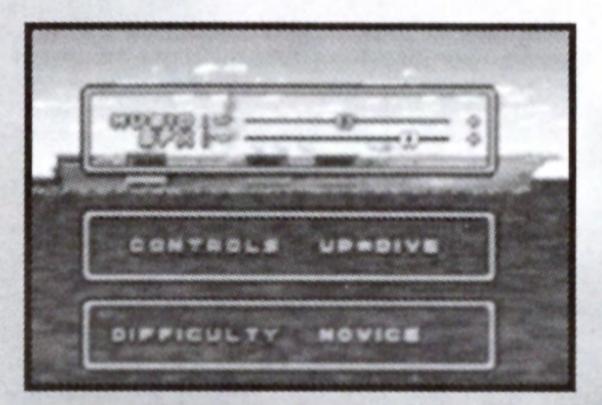
Enter Password
Selecting this option displays the *Password Entry Screen.* Report to the "PASSWORDS" section of this manual for more information.

Game Options
Selecting this option displays the *Game Options Screen.* Report to the "GAME OPTIONS SCREEN" section of this manual for more information.

Practice Landing

This option allows you to practice landing your aircraft on the practice Carrier. It is recommended that you execute a series of successful landings before attempting an actual mission.

GAME OPTIONS SCREEN

GAME OPTIONS SCREEN

On the *Game Options Screen* you can customize the controller configuration and select either the Novice or Ace settings.

Controller Configuration

To customize the controller configuration, press *UP* on the **Control Pad** to highlight the Controls Option. Press the **Control Pad** to the *RIGHT* or *LEFT* to change how your aircraft responses to the control stick.

Difficulty Settings

To change the difficulty setting, press *DOWN* on the **Control Pad** to highlight the Difficulty Option. Press the **Control Pad** to the *RIGHT* or *LEFT* to change between Novice and Ace Modes. The table below illustrates the differences between modes.

Mode	Takeoff/Landing	Tomahawk Missiles	Missile Supply	Gun Ammunition	Hits To Destroy	Rate of fuel Consumption	ECM
Novice	Automatic	Automatic	Generous	Unlimited	5	Slow	Automatic
Ace	Manual	Manual	Normal	Limited	3	Fast	Manual

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PASSWORDS

At the end of each mission, you will receive a password. This password should be written down, as it will allow you to restart the game at any time from that point at your current rank. Without the password, you will be required to start from the beginning of the game.
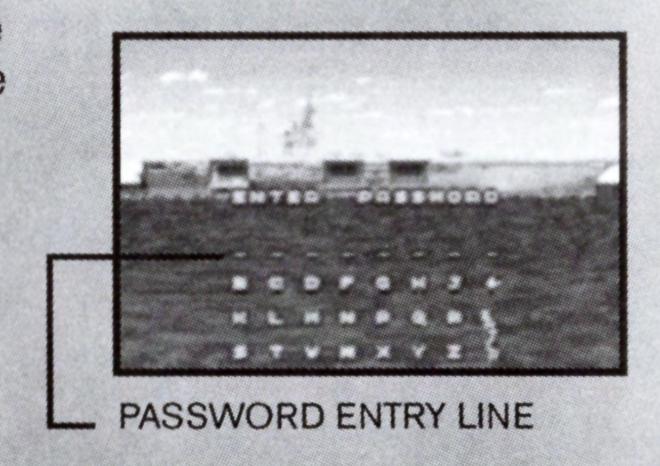
To enter the password, select "ENTER PASSWORD" on the *Main Options Screen*. The *Password Entry Screen* will then appear.

Entering Passwords

- Use the **Control Pad** to move the onscreen cursor to the desired character.

- Press the **A Button** to enter the chosen character onto the Password Entry Line.

- Select the "LEFT FACING ARROW" to remove the previously entered character from the Password Entry Line.

- Press **START** or select "ENTER" to input the desired password.

If an invalid password was entered, you will be returned to the *Main Options Screen*. If a correct password was entered, the game will resume where you previously ended.

To exit the screen without entering a password, simply press the **B Button** to return to the *Main Options Screen*.

PASSWORD ENTRY LINE

NAVAL WARGAMES

Armed with an unlimited supply of F-14s, players are pitted against each other in a vicious free-for-all competition where the objective is to seek-and-destroy all other F-14s while avoiding your own destruction.

Pilot's Advisory: Please refer to the "WARGAME PREPARATIONS" section of this Flight Manual before attempting to play F-14 Tomcat in multi-player mode.

Setting up a Wargame

Before starting a multi-player game, the players must decide on the competition parameters. After all the parameters are set, all players must press **START** to confirm the settings and to begin the competition. A *"Player Ready"* message will appear for players who have reported in, while a *"Waiting for Player"* message will appear for players who have not reported in. The game will not start until all players have reported in.

The following parameters are available in Multi-player Mode:

Name

This option allows players to enter their initials. Simply press the **Control Pad** *LEFT* or *RIGHT* to view the available letters, and press the **A Button** to place them on the Name Entry Line. Select the "LEFT FACING ARROW" to remove the previously entered letter from the Name Entry Line.

Time Limit

This option determines how long the competition will last. If you wish to play the game without the issue of time, set the timer to "NO LIMIT".

NAVAL WARGAMES (cont.)

Kill Limit
This option determines how many kills a player must have to be declared the winner.

Weapons
With this option you may select which weapons will be used in the competition. This setting applies to all players. You must decide from the following choices:

- Guns Only
- Missiles Only
- Guns & Missiles

In Guns Only and Missiles Only settings, you will have unlimited missiles and gun ammo. In the Guns & Missiles setting, gun ammo will be unlimited but missiles will not be. Thus, use your guns for the majority of the time during combat and reserve your missiles for guaranteed kills.

Time of Day
With this option, you may select to fight at sunrise, sunset, or at nighttime.

Wargame Objective
For each plane destroyed, you are awarded a kill point. Likewise, the other players are awarded kill points for shooting you down. The game lasts until one player is declared winner by either reaching the number of kill points that was selected, or, having the most kills before the timer reaches zero.

Pilot's Advisory: Self-destruction (for example, crashing into the sea) will be counted negatively against your kill points.

Starting Positions

A player's starting position will always be random. Stay alert after being shot down, as you may reappear in the middle of a dogfight.

Invulnerability

Your F-14 will flash for the first few moments whenever you appear on the battlefield. During this time, your plane is invulnerable to enemy fire. Use this time to orientate yourself to the situation and get a bearing on the other player's positions.

Onboard Computer Systems

You have all the F-14's onboard computer systems at your disposal to aid in tracking down the other players. They will operate as they would in Novice Mode.

Wargame Results Screen

After the game is over, the *Wargame Results Screen* will be displayed. This screen displays all the results from the competition including the number of kills each player has achieved and the overall winner of the wargame.

The F-14 Tomcat is equipped with state-

Damage Indicators

These lights will illuminate as your F-14 sustains damage from enemy fire. When your F-14 has sustained critical damage, fatal turbine failure will occur and result in the loss of the aircraft.

Enemy Lock-On Indicators

These lights will illuminate when an enemy is attempting to lock onto your aircraft, and will flash, accompanied by an audible warning, when an enemy missile is approaching the back of your F-14.

Engine Thrust Gauge

This gauge displays the percentage of the engine's thrust power currently being used. For normal flight operations, this reading will range between 30% and 100%. Afterburners are engaged automatically when thrust is increased over 100%. The pilot can use afterburners for increased thrust and speed, however, the fuel consumption rate is greatly increased.
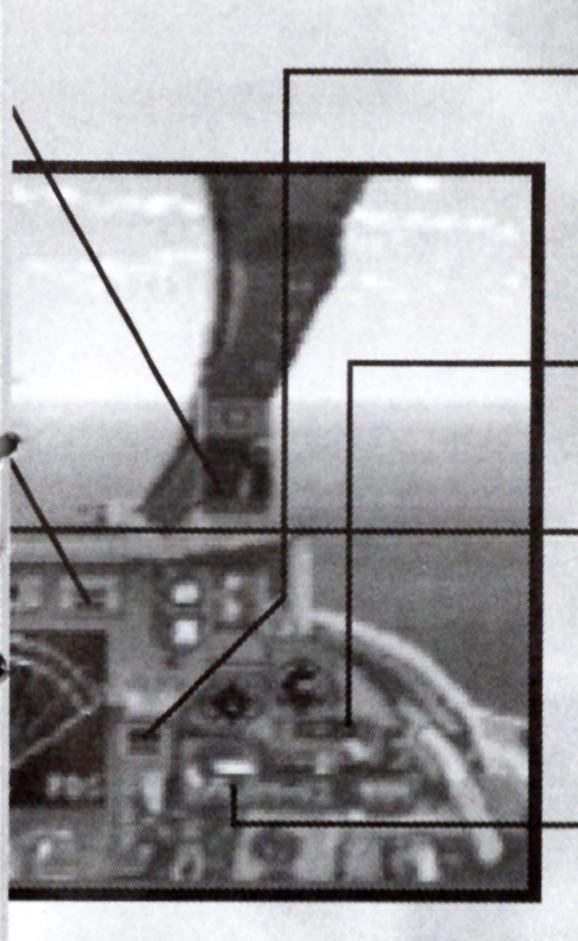
Horizontal Situation Display

This display shows your F-14's position in relation to the horizon.

CONTROL PANELS

of-the-art cockpit displays and indicators.

M61A1 Temperature Indicators
This indicator illuminates if the nose-mounted Vulcan machine gun overheats. When this occurs the Weapons System Computer will automatically shutdown the M61A1 until it is once again safe to operate, at which time the indicator will turn off.

Weapons Status Display
This display represents the currently selected Weapons System, and the number of rounds remaining for each Weapon.

F-14 Lock-On Indicator
Similar to the Enemy Lock-On Indicators, this light will flash, accompanied by a pulsing tone, when your targeting system is attempting to acquire an enemy. When "lock-on" has been achieved, the light will glow steadily, accompanied by a steady tone.

Fuel Gauge
This gauge displays the F-14's current fuel supply. Your onboard fuel will vary from mission to mission.
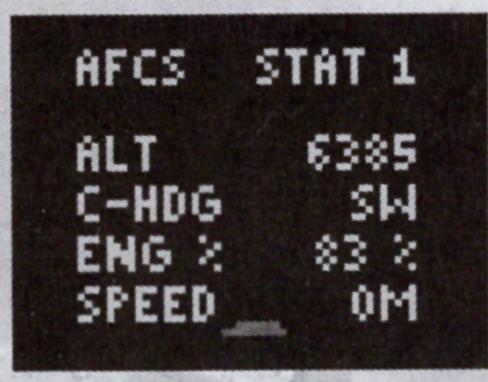
Cockpit Computer Display
This main CRT displays all Onboard Computer Systems, as well as the TARPS video replays.

ONBOARD COMPUTER SYSTEMS

The F-14 Tomcat's onboard computer systems monitor basic flight information, radar and weapon systems, flight parameters, and warning messages regarding enemy activity. This information appears on the green phosphorous Cockpit Computer Display (CCD) in the center of the Cockpit Control Panel.

Basic Flight Information

The Tomcat's Automatic Flight Control System (AFCS) computer carefully monitors and displays basic flight information such as altitude, speed, amount of fuel remaining, and heading. This information is split between two CCD screen displays, the STAT 1 and STAT 2 Displays. To access either display, press the **B Button** and *LEFT* on the **Control Pad** simultaneously until each display appears.

```
AFCS     STAT 1

ALT        6305
C-HDG        SW
ENG %      03 %
SPEED       0M
```

STAT 1 DISPLAY

STAT 1 DISPLAY

The following information is displayed on the STAT 1 Display:

Altitude (ALT)

Displays the F-14's altitude above sea level in feet. The F-14's operational ceiling is 56,000 feet.
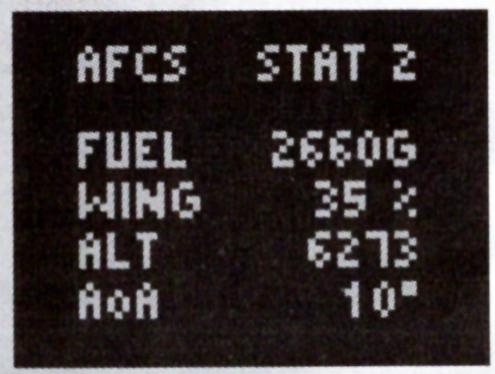
Compass Heading (C-HDG)

Displays the aircraft's direction as a compass reading.

Thrust (ENG%)

Displays the percentage of the engine's thrust power currently being used.

Airspeed (SPEED)

A three-digit reading displaying the F-14's airspeed, measured in Machs.

```
AFCS     STAT 2

FUEL     2660G
WING       35 %
ALT       6273
AoA        10°
```

STAT 1 DISPLAY

STAT 2 DISPLAY

The following information is displayed on the STAT 2 Display:

Fuel (FUEL)

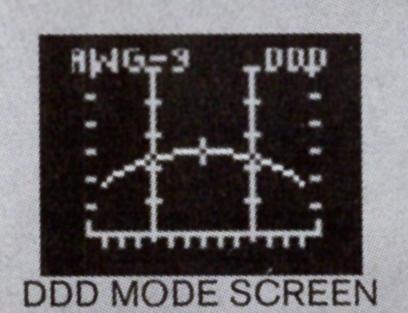Displays the F-14's current fuel supply measured in gallons.

Wing (WING)

Displays the degree of the F-14's wing sweep angle.

Angle of Attack (AOA)

Reads the angle of the aircraft's pitch, from 0° to 15°.

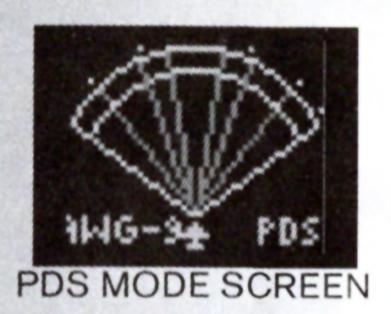## *Airborne Weapons Group Nine (AWG-9) Radar System*

The AWG-9 Radar System is a highly advanced detection system that provides effective scanning and analysis of any airborne threat. It employs three modes of operation. Although these modes are automatically displayed by the AWG-9, you may access any of them pressing the **B Button** and *RIGHT* on the **Control Pad** simultaneously until the desired display appears.

```
AWG-9    DDD
```

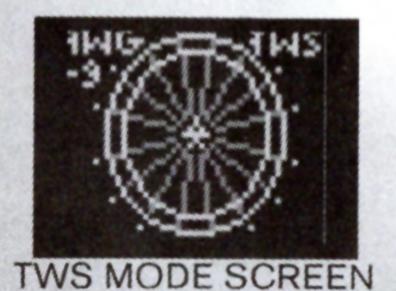DDD MODE SCREEN

Detail Data Display (DDD) Mode

The Detail Data Display (DDD) shows the position of an enemy in relation to the F-14's frontal cockpit view.

Airborne Weapons Group Nine (AWG-9) Radar System (cont.)

Pulse Doppler Search (PDS) Mode

PDS MODE SCREEN

Pulse Doppler Search (PDS) radar gives the pilot a close-up view in front of the aircraft.

Track While Search (TWS) Mode

TWS MODE SCREEN

The Track While Search (TWS) radar is the longest-range, tactical radar available. PDS mode displays a wide, overhead view of the area around the F-14.

THE NAVIGATIONAL COMPUTER
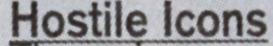
The Navigation Computer is an on-board system that acts as an aid to navigation. The system is programmed to help you locate a signature that is targeted on the AWACS Grid. When functional, the system will display an arrow-shaped indicator on the HUD, depending upon your relative position to the targeted signature. If the Navigational Computer displays the indicator on the right side of the HUD, you must bank your aircraft towards the right to fly towards the targeted signature. If appearing on the left side of the HUD, you must bank towards the left. When you are flying in the direction of the targeted signature, the indicator will appear in the center of the HUD and attempt to track its position.

When functional, the system will display an arrow-shaped indicator on either side of the HUD, depending upon your relative position to the Way Point. If the navigational computer displays the indicator on the right side of the HUD, you must bank your aircraft towards the right to fly towards the Way Point. If appearing on the left side of the HUD, you must bank towards the left. When you are flying in the direction of the Way Point beacon, the navigational computer indicators will no longer be visible on the HUD, indicating that your heading is correct for Way Point Interception.
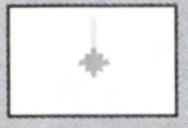
THE AWACS OPERATIONAL RADAR GRID

The Tomcat's radar detection system is fully integrated into its weapon and threat evaluation systems. This allows the pilot virtually instant access to a vast array of information on any bogey entering the F-14's airspace. These systems are also connected via two-way data link to the ever-present AWACS (Airborne Warning And Control System) aircraft that monitors all air traffic in the area of operations.

AWACS RADAR GRID

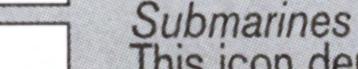The AWACS Operational Radar Grid provides a long-range satellite view enabling you to maneuver towards bogeys and other targets. The following denotes the possible signatures visible on the AWACS:
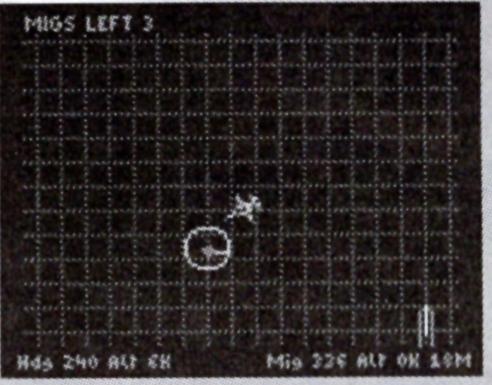
Hostile Icons
These icons represent the relative position of hostile signatures.
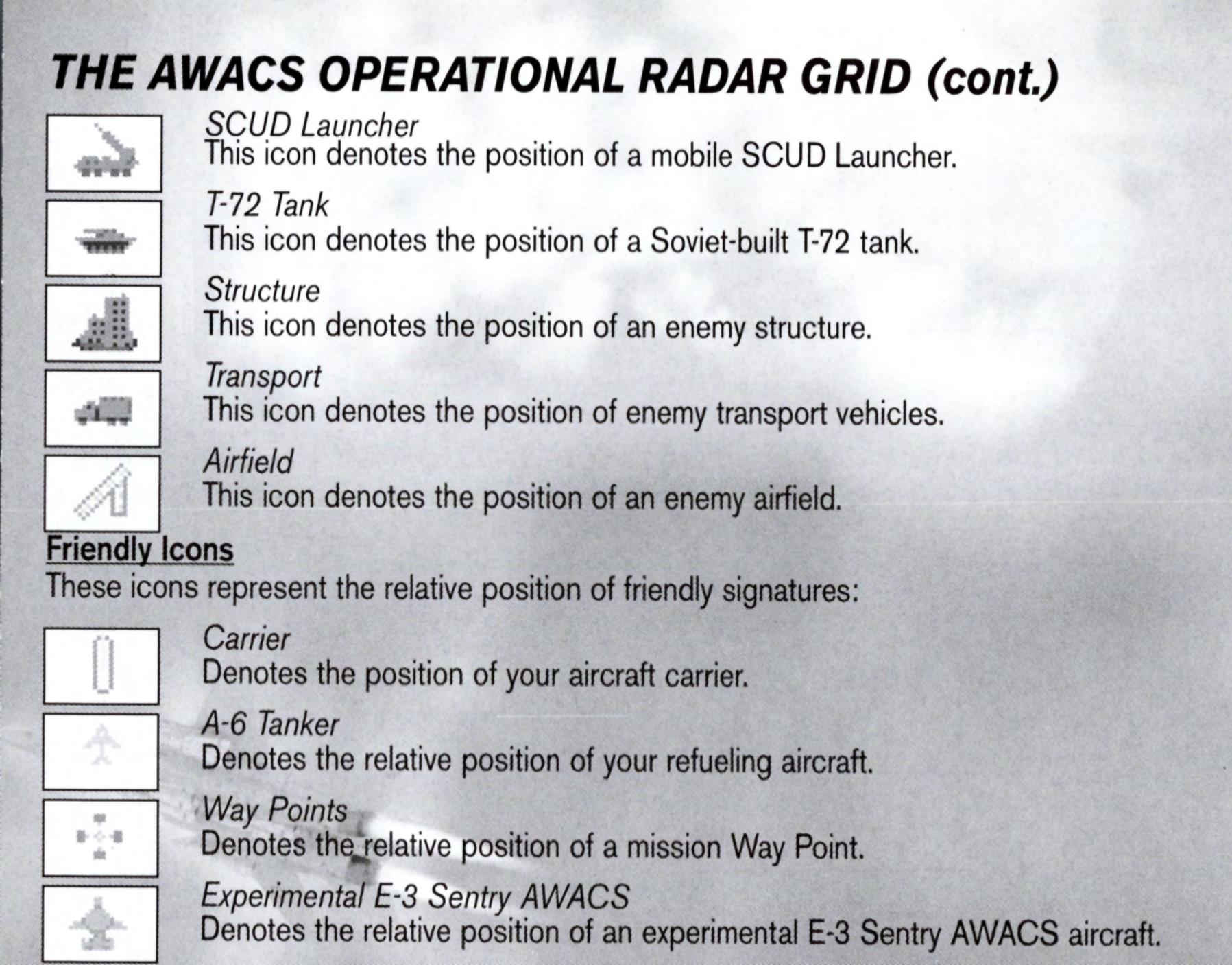
Bogey
This icon denotes the position of an airborne bogey.

Submarines
This icon denotes the position of a ballistic missile submarine.

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THE AWACS OPERATIONAL RADAR GRID (cont.)

SCUD Launcher
This icon denotes the position of a mobile SCUD Launcher.

T-72 Tank
This icon denotes the position of a Soviet-built T-72 tank.

Structure
This icon denotes the position of an enemy structure.

Transport
This icon denotes the position of enemy transport vehicles.

Airfield
This icon denotes the position of an enemy airfield.

Friendly Icons

These icons represent the relative position of friendly signatures:

Carrier
Denotes the position of your aircraft carrier.

A-6 Tanker
Denotes the relative position of your refueling aircraft.

Way Points
Denotes the relative position of a mission Way Point.

Experimental E-3 Sentry AWACS
Denotes the relative position of an experimental E-3 Sentry AWACS aircraft.

Targeting Signatures

On the AWACS Operational Radar Grid you can view the signature of any contact by targeting it. Pressing the **A Button** repeatedly will target any contact on the AWACS Grid, one after another. Once targeted, the contact's signature will appear at the bottom of the AWACS Grid. When targeting a contact that is not on the visible Grid, the AWACS will automatically display a moving icon indicating the direction of its position off screen. Flying in the direction of the moving icon will bring the targeted signature onto the AWACS Grid.

Way Points

Way Points are a series of points on the AWACS Grid from which your aircraft can fire an AGM-86B Cruise Missile. The F-14's Navigational Computer allows you to hone in on Way Point radar signatures. To launch an AGM-86B Cruise Missile, please refer to the "WEAPONS" section of this flight manual.

Maneuvering on the AWACS Operational Radar Grid

While on the AWACS Operational Radar Grid you may maneuver your F-14 using the **Control Pad**. Simply press the **Control Pad** *LEFT* or *RIGHT* to bank your aircraft respectively, and press and hold the **B Button** while pressing the **Control Pad** *UP* or *DOWN* to vary your flight speed.

Mission Status

You may review your Mission Orders, Mission Objectives, current password, and available lives at any time while on the AWACS Operational Radar Grid by pressing either the **L** or **R Buttons.**

Pilot's Advisory: Viewing the *AWACS Operational Radar Grid* does not pause the mission; the F-14 will still be subject to enemy fire and all other flight conditions. At any time you may press **SELECT** to return to the *Main Cockpit Screen.*

MISSION OBJECTIVES

On various missions you will be required to eliminate various key Mission Objectives. These Mission Objectives will be identified on the *AWACS Operational Radar Grid* by specific signatures.

Targeting an Objective

To execute a bombing run on a Mission Objective, you must first target it on the *AWACS Grid* by pressing the **A Button** until its signature appears on the bottom of the display. Once the desired Objective is targeted, press **SELECT** to return to the *Main Cockpit Screen*. Once you are close to the Objective, your on-board AWG-9 Radar System will automatically switch to PDS Mode and display the position of the Objective. Simply fly towards its position and you will automatically enter the bombing run.

Attacking an Objective
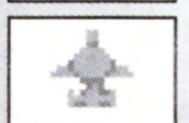
Once you are in the bombing run, you will be able to maneuver the Objective into the center of the HUD using the basic flight controls. Use your machine guns to destroy areas where enemy fire is originating, or to destroy the propulsion engines on an airborne Objective. Some Objectives may require multiple passes before all enemy resistance is neutralized. Once you have passed over the Objective, you will automatically be returned to the *Main Cockpit Screen*. You may now bank the aircraft around to bring the Objective back in front of your aircraft and attempt another bombing run.

Objective Icons

These icons represent the relative position of hostile Mission Objectives:

Enemy Destroyer
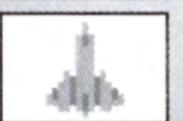This icon denotes the position of an enemy Destroyer.

Experimental Enemy Radar Plane
This icon denotes the position of an enemy Radar Plane.

Oil Platform
This icon denotes the position of an enemy offshore drilling Oil Platform.
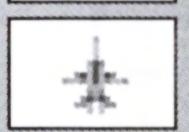
SR-71 Blackbird Aircraft
This icon denotes the position of a renegade SR-71 Blackbird Aircraft.

Island Compound
This icon denotes the position of a variety of Island-based enemy Compounds.

Tu-26 Back Bomber
This icon denotes the position of a Soviet-built Tu-26 Back Bomber.

Enemy Oil Tanker
This icon denotes the position of an Enemy Oil Tanker.

Pilot's Advisory: Naval aviators are advised that some missions may require them to seek out and destroy an enemy objective. All intelligence regarding these targets and their defense systems is classified. Pilots are advised to approach these objectives in the same manner they would approach their carrier, and then to use the M61A1 Vulcan 20mm Cannon to neutralize the objective's offensive weapons.

WEAPON SYSTEMS

The F-14 Tomcat is armed with an array of sophisticated weapons systems.

Weapon System Selection

To cycle through the list of available weapons, press the **B Button** then the **R** or **L Button** repeatedly while on the *Main Cockpit Screen*. The weapons system you have selected will appear in the Weapons Status Display on the right-hand side of the cockpit. Press the **A Button** to fire the selected weapon. To aim missiles, maneuver the dot in the center of the sight onto the target by banking to port and starboard and raising and lowering the F-14's nose angle. When using missiles, an audible repeating tone will be heard when the system is attempting to "lock-on" a target. Wait for a steady "lock-on" tone before launching.

M61A1 "Vulcan" 20mm Cannon"

Mounted on the left side of the Tomcat's nose, the M61A1 Vulcan 20mm Cannon can be utilized to destroy an enemy at close range. The Vulcan's 6,000 rounds per minute rate of fire can bring a tremendous amount of ordnance to bear on a target very quickly.

Pilot's Advisory: The M61A1 Vulcan Cannon is best fired in short, concentrated bursts. The cannon expends ammunition very quickly and is prone to overheating if fired for long intervals. At extreme temperatures, it will automatically shut down. In the event that your cannon overheats, the M61 reading on the Weapons Status Display will flash. When the cannon has cooled, the M61 reading will stop flashing, and you can resume firing.

AIM-9 "Sidewinder" Missiles

These short-range, infrared (heat-seeking) missiles use hot jet exhaust to hone in on a target. Since these signatures are easy to track in the cold sky, this missile is the most accurate and effective weapon system. Sidewinders are self-guided after launch.

AIM-7 "Sparrow" Missiles

Compact and lethal, these mid-range, radar-guided missiles can be easily carried onboard without increasing drag and compromising the F-14's performance. Sparrow missiles can only acquire a target when they are closing in on your aircraft.

AIM-54 "Phoenix" Missiles

These long-range, radar-guided missiles are deployed exclusively on F-14s. They can lock on to a distant radar signature and practically guarantee destruction of an enemy aircraft, eliminating the necessity of establishing visual contact with the target. Phoenix missiles are effective from close to extreme range. Simply target your bogey on the *AWACS Grid*, and then return to the *Main Cockpit Screen* and launch the missile.

AGM-86B "Tomahawk" Missiles

The AGM-86B "Tomahawk" employs a 1,000 lb. conventional high explosive warhead. This is the most sophisticated weapon in your F-14's arsenal. Your F-14 has been equipped with a Special Terrain Navigational Computer to guide the warhead with pinpoint accuracy. Since the topography of specific targets is pre-programmed into each missile, these weapons can only be fired from specific Way Points. On missions requiring the use of Tomahawk missiles, this computer will aid you in acquiring Way Points and deploying the AGM-86B.

AGM-86B "Tomahawk" Missiles (cont.)

Programming Tomahawk Missiles

To launch the AGM-86B, do the following:

- Maneuver your F-14 to the appropriate Way Point by following the reference of the Navigational Computer. Once the Way Point is acquired, you will be prompted by the Weapons System to launch the AGM-86B.

- Press the **B Button** and then the **R** or **L Button** to select the AGM-86B.

- Press the **A Button** to launch the AGM-86B.

Pilot's Advisory: If you wait too long to launch a Tomahawk missile after acquiring a Way Point, the computer will prompt you to reacquire the Way Point. If this occurs, you will have to return to the position of the Way Point and attempt another launch. However, you may only have one AGM-86B airborne at a time.

Detonating Tomahawk Missiles

At any time an AGB-86B Cruise Missile is airborne, you may view its progress across the terrain by selecting it on the Weapons Status Display. When the missile has reached its detonation range, the CCD will alert you to transmit a classified detonation code. To detonate the AGM-86B, do the following:

- On the *Main Cockpit Screen*, press the **B Button** and then the **R** or **L Button** to select the AGM-86B.

- Press the **A Button** to detonate the AGM-86B.

Pilot's Advisory: In Novice Mode, the AGM-86B detonation will occur automatically. However, in Ace Mode, if you wait too long to detonate a Tomahawk missile after receiving orders, the missile will fall harmlessly to the Earth. If this occurs, you will have to return to the position of the Way Point and attempt another launch. However, you may only have one AGM-86B airborne at a time.

COMBAT

Targeting potential enemies on the *AWACS Operational Radar Grid* displays information on their signature, location, altitude, and heading. Use the *AWACS Grid* to guide the F-14 close enough to an enemy to begin tactical operations on the *Main Cockpit Screen*. When visual contact has been made with the enemy aircraft, begin engagement procedures by selecting a weapons system. Then maneuver the F-14 until the HUD of the chosen weapons system locks onto the enemy. When utilizing missiles, a steady beep tone signifies that the computer has locked onto the target and the weapon is ready to be launched.

Threat System Display

The Threat System gives vital flight information on any targeted bogey. In addition to the self-explanatory statistics of altitude, compass heading, and range (in nautical miles) from the F-14, it has the added ability to ID the bogey's radar signature with the Interferometer as described below.

Interferometer Friend/Foe Reading (IFF)

The IFF will classify any radar signature it receives. When a blip is targeted on the *AWACS Operational Radar Grid*, the pilot may access its vital information by referring to the Threat Systems Display on the CCD. To access this display, press the **B Button** and *LEFT* on the **Control Pad** simultaneously until it appears on the CCD.

COMBAT(cont.)

Electronic Countermeasures Display (ECMs)

An enemy may at any time fire its own air-to-air ordnance at your F-14. Immediately after this occurs, the CCD will display the ECM computer screen, and a repeating warning tone will sound, indicating that an enemy missile is actively searching for your aircraft. The blip on the ECM display represents the oncoming missile and its distance in relation to your aircraft. The radar blip gets closer to the plane icon as the missile gains on you. When the blip is on top of the plane icon, it has impacted with your F-14 and you will sustain damage.

Electronic Countermeasures

The Tomcat is equipped with a supply of electronic countermeasures that can be used to confuse the tracking and guidance systems of enemy missiles. In the event that an enemy missile acquires your F-14, these devices can be used to augment your evasive flight maneuvers.

Discharging ECM Devices

To discharge an ECM Device, execute the following procedures:

- Press and hold either the **R** or **L Button** to bring up the Rear Right or Rear Left view.

- Press and hold either the **R** or **L Button** to bring up the Right or Left rear view.

Pilot's Advisory: While ECMs are often helpful for avoiding enemy missiles, discharging an ECM device does not guarantee that the homing missile will be evaded. It is recommended that pilots continue evasive maneuvers after an ECM has been discharged.

Avoiding Enemy Ordnance

To avoid an enemy missile, you must fly a series of evasive flight maneuvers. Extreme banking and altitude changes will help to lose a missile tracking you from close behind. When your F-14 is out of danger, the warning tone will cease, and the ECM display will disappear from the CCD. During avoidance maneuvers, you may still perform offensive measures to destroy enemy aircraft.

Pilot's Advisory: The more extreme the F-14's defensive maneuvers, the more likely you will successfully evade an oncoming missile. The missile will explode if it gets too close to the F-14, and you will sustain damage.

Surface To Air Missile (SAMs)

Even when there is no apparent threat from enemy aircraft, stay alert for SAMs fired from enemy submarines, tanks, and mobile SCUD launchers. If this occurs, the Enemy Lock-On Indicators will flash and your computer's ECM screen will appear. Use the same evasion techniques described for air-deployed enemy missiles.

Damage

If your ECMs and evasive maneuvers fail, an enemy missile will impact and damage your F-14. In the Novice Mode, a fifth hit by enemy ordnance will destroy your aircraft. In Ace Mode, a third hit will destroy your F-14.

Carrier Protection

While in combat, bogeys will sometimes disengage and attack your carrier. As this occurs, your carrier will sustain damage. If your carrier sustains enough damage, it will sink and your current mission will be aborted.

LANDING PROCEDURES

You must land your F-14 on the flight deck of the Carrier in order to successfully complete a mission. You may also land during the course of a mission in order to replenish your fuel and weapons stocks.

Carrier Targeting

In order to land, you must target the Carrier on the *AWACS Operational Radar Grid*. First, press **SELECT** to display the *AWACS Grid*, press the **A Button** to target it, then fly towards the Carrier. Once you are close to the Carrier, press **SELECT** to return to the *Main Cockpit Screen*. Your on-board AWG-9 Radar System will automatically switch to PDS Mode and display the position of the Carrier. Simply fly towards its position and you will automatically line up in position behind the Carrier.

The Landing Corridor

When your F-14 is in the correct position for final approach, the Computer Landing Display (CLD) will automatically appear on the CCD after you have successfully positioned your aircraft for final approach. The CLD shows your altitude and horizontal position in relation to the Carrier. The Landing Corridor Display in the upper half of the CLD denotes your aircraft's vertical position in relation to the Carrier. To land safely, you must maneuver your aircraft such that the contact blip in the Landing Corridor Display remains between the top and bottom lines.

The Positioning Grid

Throughout the landing procedure, your F-14 will be subject to prevailing wind conditions, and may drift slightly. On final approach, your aircraft may be tossed about by crosswinds that will

move it away from the center of the Carrier, or too high or low in relation to the flight deck. This drift is reflected on the Positioning Grid. Like the Landing Corridor Display, the contact blip on the Positioning Grid represents the F-14. The F-14 must be maneuvered so that the blip is kept in the center box of this Grid at all times.

Landing Abort

If at any time during a landing attempt, you decide not to land, you must do one or more of the following to abort the landing:

- Increase engine thrust percentage
- Increase altitude

Pilot's Advisory: On either the Landing Corridor or Positioning Grid Displays, if the F-14 blip slips above the required parameters too close to the deck, you will overshoot the Carrier and must reposition the F-14 for another landing attempt. If it dips below these parameters, forced impact into the flight deck will result. Throughout the landing procedure, the F-14 will continuously burn fuel. As a result, the number of passes you can attempt over the Carrier is limited and dependent upon the amount of fuel you are carrying.

IN-FLIGHT REFUELING

On every mission, when your fuel resources are below 1000 lbs., the KA-6D Tanker will be launched. Pilots can either return to the Carrier to refuel or locate the KA-6D Tanker in your area of operations.

IN-FLIGHT REFUELING (cont.)

KA-6D Tanker Targeting

To perform a mid-air refueling procedure, locate the A6 on the *AWACS Grid*, press the **A Button** to target it, then fly towards the A6. Once you are close to the A6, press **SELECT** to return to the *Main Cockpit Screen*. Your on-board AWG-9 Radar System will automatically switch to PDS Mode and display the position of the A6. Simply fly towards its position and you will automatically line up in position behind the A6.

KA-6D Tanker Refueling

When you are flying directly behind the A6, the Refueling Computer Display will appear on the CCD to assist you in lining up correctly with the Tanker. Simply line up the floating aircraft icon with the stationary one and you will be in proper position for refueling. As soon as you are connected to the Tanker, the refueling process will begin. When this is completed, you will automatically disengage from the Tanker and return to normal flight.

Pilot's Advisory: The A6 will be able to replenish all of the F-14's fuel, but will not be able to rearm spent weaponry. Once utilized, the A6 will return to its base of operations until the next mission.

TACTICAL RECOMMENDATIONS

- To avoid enemy missiles, adopt an eccentric flight pattern. Dive, bank, and climb as quickly and erratically as possible. Incoming missiles must detonate behind your aircraft to be effective, so keep them at a distance, or in front of you as much as possible.

- To reduce the amount of fuel used during flight, use afterburners only in an emergency, and keep engine thrust below 99% (near 40% during dogfights.)

- In combat situations, reduce engine thrust to 50% to increase the F-14's maneuverability.

- Fire the nose-mounted M61A1 Vulcan 20mm machine-guns in short concentrated bursts to avoid overheating.

- When landing, move the **Control Pad** slightly to avoid overshooting the carrier's parameters. Avoid rapid altitude fluctuations. Aim toward the front of the carrier runway with your HUD sight.

- When attacking Objectives, move the **Control Pad** slightly to aim at the attacking bursts of enemy fire.

F-14 TOMCAT SPECIFICATIONS

The following defines the specifics of your F-14 Tomcat aircraft:

Performance
Maximum Speed at Altitude: Mach 2.34
Maximum Speed at Sea Level: Mach 1.2
Power Plant: Two 20,900 lb. afterburning
Pratt and Whitney TF30-414 Turbofans
Cruising Speed: 400-500 knots (741-1019 km/h)
Landing Speed: 132 knots (204 km/h)
Minimum Takeoff Distance: 1,400 ft.
Ceiling: 56,000 ft.
Fuel Load: 3,080 gallons

Armament
M61A1 "Vulcan" 20mm cannon
AIM-7 "Sparrow" radar-guided air-to-air missiles
AIM-9 "Sidewinder" infrared air-to-air missiles
AIM-54 "Phoenix" lock and shoot air-to-air missiles

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